

**Groundwater Monitoring Program
Willow Boulevard/A-Site Operable Unit
December 19, 2012
Kalamazoo, Michigan**

Elements of Proposed Groundwater Monitoring Program

Monitoring Well Network

- 12 downgradient monitoring locations, 3 upgradient monitoring locations
- 12 water table wells to be flush mount, constructed with 10-foot stainless steel, wire-wrapped screen and Schedule 40 PVC riser
- Up to 5 piezometers (number and locations to depend on results of VAS) to be flush mount, constructed with 5-foot stainless steel, wire-wrapped screen and Schedule 40 PVC riser
- Possible modification to screen depths at A-Site due to sheet pile (design bottom elevation of 737 ft AMSL)

Vertical Aquifer Sampling

- VAS to be conducted at every other downgradient well location along river
- VAS to extend to a maximum of 20 feet below the groundwater table
- VAS sampling to be conducted at continuous 5 foot depth intervals, starting 5 feet below the water table, using a geoprobe sampler with 48-inch intake screen
- VAS analyses to consist of measurements of field parameters to include pH, conductivity, turbidity, temperature, oxidation-reduction potential, and selected (Stiff) anions and cations
- If pH, conductivity, and turbidity data indicate impacts above threshold levels, 5-ft depth interval will be considered for piezometer screen. If several depth intervals at a drill location indicate impacts above threshold levels, the 5-foot depth interval showing greatest impact will be selected for piezometer screen

Monitoring Program

- All wells to be sampled quarterly
- Analyses to include PCBs, metals, and selected (Stiff) anions and cations
- After 2 years: review analytical results to document effectiveness of remedy
 - If closure is determined to be effective, cease monitoring, or reduce analytes and monitoring frequency, if appropriate
- Develop contingency plan for potential response activity if groundwater results show unacceptable impact to human health or the environment
- 5-Year Review: USEPA to assess effectiveness of remedy
 - If closure determined to be ineffective, follow provisions of Consent Decree